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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,943	03/28/2001	Ulf Eriksson	1064/48487	9621

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EXAMINER
WHITEMAN, BRIAN A

ART UNIT	PAPER NUMBER
1635	21

DATE MAILED: 07/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/818,943	ERIKSSON ET AL.	
	Examiner	Art Unit	
	Brian Whiteman	1635	

-- The MAILING DATE of this c mmunication appears on the cover sheet with the corresp ndence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 May 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,5-9,12,14,15,18-20 and 22-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5-9,12,14,15,18-20 and 22-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Non-Final Rejection

Claims 1, 5-9, 12, 14, 15, 18-20, 22-28 are pending.

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/4/03 has been entered.

Applicants' traversal, the amendment to claims 1, 20, and 22, the addition of claims 26-28, and the cancellation of claims 2-4, 10-11, 16, 17, and 21 in paper no. 19 filed on 5/20/03 is acknowledged and considered.

Claim Objections

Claims 15, 20, 22, 23, 24, 25, 26, 27, and 28 are objected to because of the following informalities: the phrases "A method according to claim" and "a transgenic mouse according to claim" are improper dependent phrases for the dependent claims. Suggest replacing the first term of each phrase with -- The --. Appropriate correction is required.

Claims 18, 19, and 25 are objected to because of the following informalities: the phrase "an amino acid sequence of SEQ ID NO: 1 or SEQ ID NO: 2" in the claims is improper because

there is only one amino acid sequence for SEQ ID NO: 1 or SEQ ID NO: 2. The phrase indicates that there is more than one amino acid sequence in either SEQ ID NO. Suggest amending the phrase to read -- the amino acid sequence of SEQ ID NO: 1 or SEQ ID NO: 2 --.

Claim 23 is objected to because of the following informalities: the phrase "determining said compound inhibits hypertrophy where said cardiac development is inhibited" is grammatically incorrect. Appropriate correction is required.

Claim 24 is objected to because of the following informalities: the phrase "determining said compound inhibits fibrosis where said cardiac development is inhibited" is grammatically incorrect. Appropriate correction is required.

Claim 28 is objected to because of the following informalities: misspelling of the word "fibrosis" on line 2. Appropriate correction is required.

Claim Rejections - 35 USC § 112

Applicant's arguments, see paper no. 19, filed on 5/20/02, with respect to 112 first paragraph have been fully considered and are persuasive. The rejection of claims 1, 5-9, 12, 14, 15, 18-20, and 22-28 has been withdrawn.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 1, 5, 6, 7, 8, 9, 12, 14, 15, 20, 22, 23, 24, 25, 26, 25, 26, 27, and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 5, 6, 7, 8, 9, 12, 14, 15, 20, 22, 23, 24, 25, 26, 25, 26, 27, and 28 are indefinite because the term "develops hypertrophy or fibrosis in at least one of its organs in its life time" in the preamble does not give weight to the phenotype. The body of the claims do not fully and intrinsically set forth all of the limitations of the claimed invention because the steps in the body of the claims do not define the phenotype in the pre-amble.

Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: how introducing said compound into a transgenic mouse and monitoring in vitro biological activity of PDGF-C in an isolated cell from said mouse are connected. Furthermore, the last step in the method does not complete the pre-amble of the claim.

Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: how assaying an effect of said compound on said cell in vitro and

identifying the compound as a PDGF-C antagonist where the PDGF-C biological activity of said cell is altered are connected.

Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: compared to what (mouse as a whole, cells from the mouse, organ from the mouse) of a control transgenic mouse and what type of control transgenic mouse is used in the method.

Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: compared to what (mouse as a whole, cells from the mouse, organ from the mouse) of a control transgenic mouse and what type of non-treated control transgenic mouse is used in the method.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 5, 8, 9, 12, 14, 15, 18, 19, 20, 22, 23, 24, 25, 26, 27, and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Gao et al. (US Patent 6,432,673, EFD 12/7/98). Gao teaches using a nucleotide sequence that encodes a murine zvegf3 amino acid sequence (SEQ ID NO: 43) that is 100% identical to the claimed murine amino acid sequence set forth in SEQ ID NO: 2 column 6). Gao teaches making transgenic mice that over-express zvegf3 (columns 49-52). Gao teaches that mice had enlargement of the liver and spleen (column 52). Gao further teaches that transgenic mice that over-express zvegf3 under a tissue specific promoter or tissue-restricted promoter can be used to determine whether or not over-expression caused a phenotypic change (column 36, line 64-column 37, line 15). Suitable promoters include K-14. Gao teaches injecting plasmid DNA into fertilized eggs and injecting the eggs into pseudopregnant recipients (column 50). Gao further teaches that a DNA sequence encoding a zvegf3 polypeptide is operably linked to other genetic elements required for its expression, generally including a transcription promoter and terminator, within an expression vector. The vector will also commonly contain one or more selectable markers and one or more origins of replication, although those skilled in the art will recognize that within certain systems selectable markers maybe provided on separate vectors, and replication of the exogenous DNA may be provided by integration into the host cell genome (column 22). Gao teaches developing compounds to antagonize zvegf3 using in vivo and in vitro methods (columns 10 and 37-42).

Applicant's arguments with respect to claims 1, 5, 8, 9,12, 14, 15, 18-20, and 22-28 have been considered but are moot in view of the new ground(s) of rejection.

Claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by Paigen et al. (PubMed Accession No. 2317166, US National Library of Medicine, Bethesda, MD, Arteriosclerosis, March-April 1990, abstract, accessed by PTO on 7/21/03). Paigen teaches a wild-type mouse (C57BL/6). The claim reads on a wild-type mouse because if you backcross the mouse produced by the method according to claim 9 with a non-transgenic mouse, the litter would comprise a wild-type mouse.

Applicant's arguments with respect to claim 12 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gao et al. (US Patent 6,432,673, EFD 12/7/98) taken with Prusiner et al. (US Patent 5,789,655).

Gao teaches using a nucleotide sequence that encodes a murine zvegf3 amino acid sequence (SEQ ID NO: 43) that is 100% identical to the claimed murine amino acid sequence set forth in SEQ ID NO: 2 (column 6). Gao teaches making transgenic mice that over-express zvegf3 (columns 49-52). Gao teaches that mice had enlargement of the liver and spleen (column 52). However, Gao does not specifically teach operably linking a c-myc epitope tag to the nucleotide sequence.

However, at the time the invention was made, Prusiner teaches producing transgenic mouse whose genome comprising a DNA construct encoding a c-myc epitope tag (abstract). Prusiner teaches that epitope tags are used to identify a protein of interest by attaching the tag to the protein (columns 3-4).

It would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to operably linked a c-myc epitope tag to the nucleotide sequence taught by Gao and use the sequence in a method of producing a transgenic mouse that over-expresses zvegf3. One of ordinary skill in the art would have been motivated to use the epitope tag to identify the zvegf3 protein from the transgenic mouse.

Therefore the invention as a whole would have been *prima facie* obvious to one ordinary skill in the art at the time the invention was made.

Applicant's arguments with respect to claims 1, 6, and 7 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Whiteman whose telephone number is (703) 305-0775. The examiner can normally be reached on Monday through Friday from 7:00 to 4:00 (Eastern Standard Time), with alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John L. LeGuyader, SPE - Art Unit 1635, can be reached at (703) 308-0447.

Papers related to this application may be submitted to Group 1600 by facsimile transmission. Papers should be faxed to Group 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CM1 Fax Center number is (703) 308-4556.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Brian Whiteman
Patent Examiner, Group 1635

Scott D. Priebe

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PRIMARY EXAMINER